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Case Report

Giant subcutaneous fibrolipoma of the chest wall

25 cm fibrolipoma of the chest wall

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Abstract

Lipomas are the most common soft tissue lesions in the subcutaneous area and when composed with collagenous tissue they are named fibrolipomas; which are a rare subtype of fat containing soft tissue tumors. They may ocur in any part of the body where the fat tissue is located. This slow growing benign lesion can be treated by total excision. We report a case of a 38-year old woman who had a giant mass on her back. Radiography evidenced a solid neoplasm measuring 25 cm in its major axis. A total excision was performed and the histology was consistent with fibrolipoma. We want to share our clinical experiences and discuss literature with this giant fibrolipoma case.

Keywords

Fibrolipoma; Chest Wall; Soft Tissue; Tumors; Thoracic Surgery; Resection

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Introduction

Lipomas are the most common benign tumors of the soft tissue that originates from mature lipocytes. Benign adipose tumors can arise anywhere in the fat tissue but are usually located in subcutaneously [1]. The fifth or sixth decade is the common age for lipoma and rarely seen in children. The upper half of the body is the major location of occurrence [2]. Most of them usually less than 2 cm in diameter however there is also giant examples published in the literature [3]. The "giant" lipoma definition is used for the lesions which are at least 10 cm in diameter or weight minimum 1000 g [4] and distinguished from liposarcomas which are at the similar size [5].

There are many morphological subtypes of lipoma. These entities include fibrolipoma (mature fat tissue and fibrous connective tissue), myxolipoma (features well developed myxoid component), chondroid lipoma (contains lipoblasts and chondroblast), myolipoma (mixture of mature adipose tissue and smooth muscle), spindle cell lipoma (mature lipocytes and primitive spindle cells), pleomorphic lipoma (hyper-chromaticmultinucleated, "floret- like" tumor cells), angiolipoma (painful small multiple tumors) [6].

Typically, lipomas are slow growing painless masses that are mobile and well-circumscribed from surrounding tissue on examination. They can be multiple and solitary. If there is a pain, it is the sign of compression of nerves.

Lipomas are well vascularized lesions but vascularization is not distinguished at microscopical images due to the compression of adipose cells and paradoxically lipomas grows during starvation [7].

We present a giant fibrolipoma of the chest wall and review of the literature in this case.

Case Report

Thirty-eight-year old female patient presented to our clinic with a painful mass that have extremely grown over the last year. There was no history of trauma and any other medical problem, and no abnormal findings in the laboratory results. On physical examination, 25 cm in diameter, semi-mobile, soft lesion was determined between first and 11th ribs. Chest X-ray (Figure 1a) and Thorax CT (Figure 1b) reported 25x23x7 cm fat density mass between C7 and T11 vertebrae. In view of these clinical conditions, we decided to remove the entire mass. Under general anesthesia, the mass was completely resected (Figure 2 a-b). A negative suction drain was placed for 4 days, and there were no intraoperative or postoperative complications.The histopathological investigation of the mass revealed as fibrolipoma that includesmature and immature adipocytes, lipoblasts, spindle or multi-nucleated cells with collagenous fibers (Figure 3). Three months following the resection, there were no signs of recurrence.

Discussion

Primary chest wall tumors are developed from bone, cartilaginous and soft tissue of the chest wall; and they are 1-1,5% of all primary tumors [8]. Fibrolipoma is a rare subtype of lipoma which contains both adipose cells and fibrous connective tissue. Clinically they have similarbehavior ; they grow slowly and symptom begin when secondary compression effect occurred.

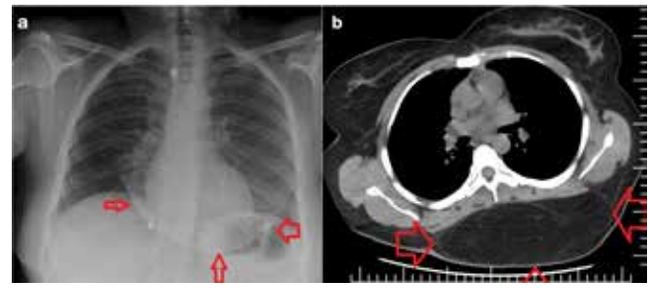

Figure 1. Chest X-ray (a), Thorax CT scan of fibrolipoma (b)

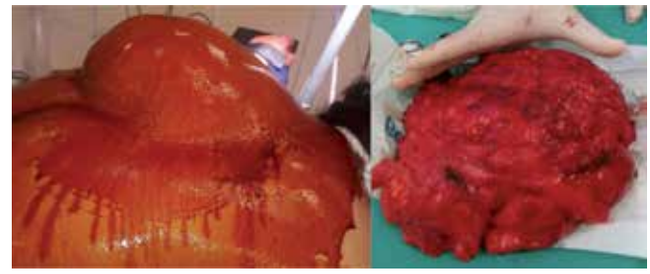

Figure 2. Preoperative and postoperative view of fibrolipoma

Etiology is not still certain. Endocrine [9], genetic [10] and traumatic [11] theories have been reported.

The real incidence of this neoplasm is not clear because it is painless and slow-growing, and the patient face the clinician only when symptoms occur. Tumor size depends on the location of the lesion. There have been a few reports of giant lipomas in the literature [2,3,12,13].

Fibrolipoma is commonly located subcutaneously however sometimes found on tongue [14], oral cavity [15]. femoral vein [16], parotid gland [17], upper eyelid [18], nose [19], scrotum [20] and other locations.

CT and MRI are helpful in radiological diagnosis. On CT images, can be seen as an uncontrasted hypodense mass. On MRI scan fibrolipomas are more heterogeneous than lipomas [18].

The prognosis of fibrolipoma is excellent and recurrence is rare. Liposarcomas, malignant fibrous histiocytomas, old muscle rupture, epidermoid cyst, angiolipomas, hemangioma is the differential diagnosis of giant lipomas. The diagnosis of a fatty subcutaneous tumor which is more than 10 cm in diameter is important because of the risk of malignancy.

The treatment of fibrolipoma is surgical excision but also some authors suggest medical therapy. Steroid injections (triamcinolone acetonide) result local fat atrophy and increase the size of tumor [21]. Liposuction for the treatment of giant lipomas has also been reported [22]. But because of the difficulties in differential diagnosis between giant lipoma and liposarcoma, liposuction is not suggested.

Malign sarcomatous transformation of lipoma is rare [23] but transformation of fibrolipoma has not been reported yet. The intramuscular location of lipoma is also a risk of transformation in to liposarcoma [1].

As conclusion fibrolipoma is a rare variant of lipoma which contains broad bands of mature fat cells and fibrous connective tissue and our case as far as, is known the biggest subcutaneous fibrolipoma in the literature. Treatment is total excision. The prognosis is well and recurrence is rare after resection.

Scientific Responsibility Statement

The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.

Animal and human rights statement

All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. No animal or human studies were carried out by the authors for this article.

Conflict of interest

None of the authors received any type of financial support that could be considered potential conflict of interest regarding the manuscript or its submission.

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